

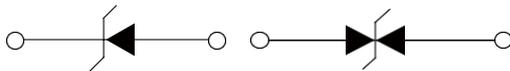
Applications

- ◆ Power supply protection
- ◆ Automotive application
- ◆ Industrial application
- ◆ Power management

Features

- ◆ Low profile package
- ◆ Ideal for automated placement
- ◆ 8000 Watt peak pulse power capability with a 10/1000 μ s waveform
- ◆ For surface mounted applications to optimize board space
- ◆ Excellent clamping capability
- ◆ Very fast response time
- ◆ Low incremental surge resistance

DO-214AB(SMC)



DO-214AB(SMC)

Uni-directional

Bi-directional

Product and Packing Information

Part Number	QTY/Reel	Reel Size
8.0SMDJxx(C)A	3,000	13 inch

Maximum Ratings ($T_A=25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation on 10/1000 μ s waveform (Note1,Note2)	P_{PPM}	8000	W
Steady State Power Dissipation at $T_A=50^\circ\text{C}$, Lead lengths .375" (9.5mm) (Note2)	P_D	6.5	W

Note 1. Non-repetitive current pulse, $T_A = 25^\circ\text{C}$.

2. Mounted on 5.0mm*5.0mm (0.03mm thick) Copper Pads to each terminal.

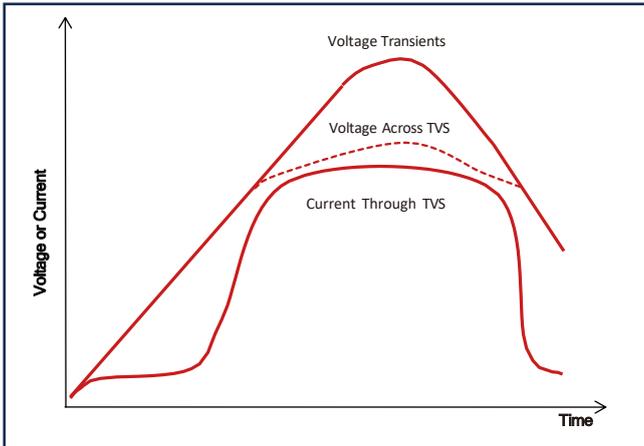
Thermal Considerations

Parameter	Symbol	Value	Unit
Operating Junction Temperature	T_J	-55 to +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150	$^\circ\text{C}$
Junction to Ambient on printed circuit	$R_{\theta JA}$	75	$^\circ\text{C/W}$

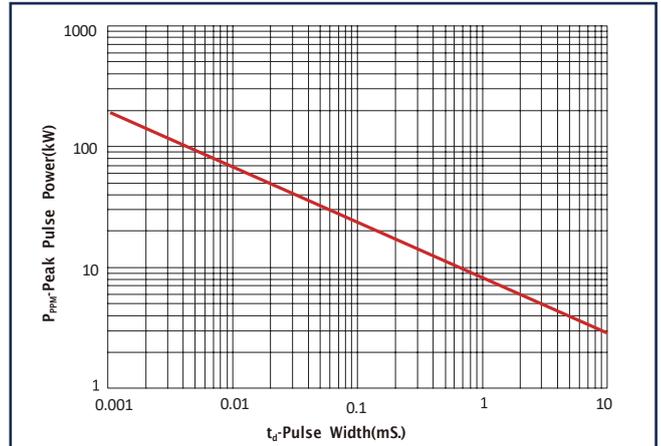
Electrical Characteristics ($T_A=25^\circ\text{C}$)

Part Number		Device Marking Code		Reverse Stand-off Voltage	Breakdown Voltage Min. @ I_T	Breakdown Voltage Max. @ I_T	Test Current	Maximum Clamping Voltage @ I_{PP}	Peak Pulse Current	Reverse Leakage @ V_{RWM}
Uni-Polar	Bi-Polar	Uni	Bi	$V_{RWM}(V)$	$V_{BR}(V)$	$V_{BR}(V)$	$I_T(mA)$	$V_C(V)$	$I_{PP}(A)$	$I_R(\mu A)$
8.0SMDJ14A	8.0SMDJ14CA	8PER	8BER	14.0	15.60	17.20	10	23.2	348.28	200
8.0SMDJ15A	8.0SMDJ15CA	8PES	8BES	15.0	16.70	18.50	1	24.4	331.15	100
8.0SMDJ16A	8.0SMDJ16CA	8PET	8BET	16.0	17.80	19.70	1	26.0	310.77	50
8.0SMDJ17A	8.0SMDJ17CA	8PEU	8BEU	17.0	18.90	20.90	1	27.6	292.75	20
8.0SMDJ18A	8.0SMDJ18CA	8PEV	8BEV	18.0	20.00	22.10	1	29.2	276.71	10
8.0SMDJ20A	8.0SMDJ20CA	8PEW	8BEW	20.0	22.20	24.50	1	32.4	249.38	5
8.0SMDJ22A	8.0SMDJ22CA	8PEX	8BEX	22.0	24.40	26.90	1	35.5	227.61	5
8.0SMDJ24A	8.0SMDJ24CA	8PEZ	8BEZ	24.0	26.70	29.50	1	38.9	207.71	5
8.0SMDJ26A	8.0SMDJ26CA	8PFE	8BFE	26.0	28.90	31.90	1	42.1	191.92	5
8.0SMDJ28A	8.0SMDJ28CA	8PFG	8BFG	28.0	31.10	34.40	1	45.4	177.97	5
8.0SMDJ30A	8.0SMDJ30CA	8PFK	8BFK	30.0	33.30	36.80	1	48.4	166.94	5
8.0SMDJ33A	8.0SMDJ33CA	8PFM	8BFM	33.0	36.70	40.60	1	53.3	151.59	5
8.0SMDJ36A	8.0SMDJ36CA	8PFP	8BFP	36.0	40.00	44.20	1	58.1	139.07	5
8.0SMDJ40A	8.0SMDJ40CA	8PFR	8BFR	40.0	44.40	49.10	1	64.5	125.27	5
8.0SMDJ43A	8.0SMDJ43CA	8PFT	8BFT	43.0	47.80	52.80	1	69.4	116.43	5
8.0SMDJ45A	8.0SMDJ45CA	8PFV	8BFV	45.0	50.00	55.30	1	72.7	111.14	5
8.0SMDJ48A	8.0SMDJ48CA	8PFX	8BFX	48.0	53.30	58.90	1	77.4	104.39	5
8.0SMDJ51A	8.0SMDJ51CA	8PFZ	8BFZ	51.0	56.70	62.70	1	82.4	98.06	5
8.0SMDJ54A	8.0SMDJ54CA	8PGE	8BGE	54.0	60.00	66.30	1	87.1	92.77	5
8.0SMDJ58A	8.0SMDJ58CA	8PGG	8BGG	58.0	64.40	71.20	1	93.6	86.32	5
8.0SMDJ60A	8.0SMDJ60CA	8PGK	8BGK	60.0	66.70	73.70	1	96.8	83.47	5
8.0SMDJ64A	8.0SMDJ64CA	8PGM	8BGM	64.0	71.10	78.60	1	103.0	78.45	5
8.0SMDJ70A	8.0SMDJ70CA	8PGP	8BGP	70.0	77.80	86.00	1	113.0	71.50	5
8.0SMDJ75A	8.0SMDJ75CA	8PGR	8BGR	75.0	83.30	92.10	1	121.0	66.78	5
8.0SMDJ78A	8.0SMDJ78CA	8PGT	8BGT	78.0	86.70	95.80	1	126.0	64.13	5
8.0SMDJ85A	8.0SMDJ85CA	8PGV	8BGV	85.0	94.40	104.00	1	137.0	58.98	5

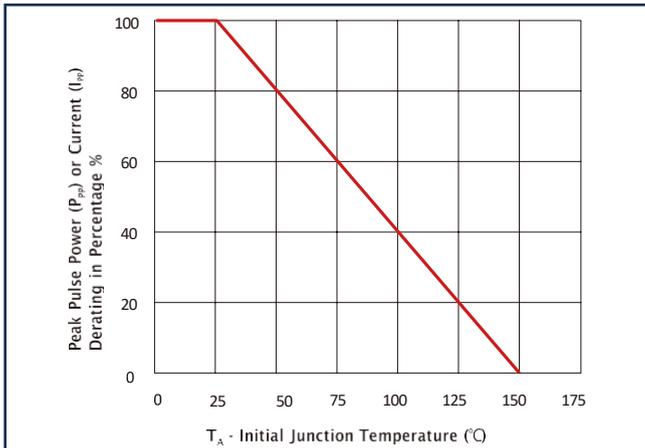
Characteristic Curves



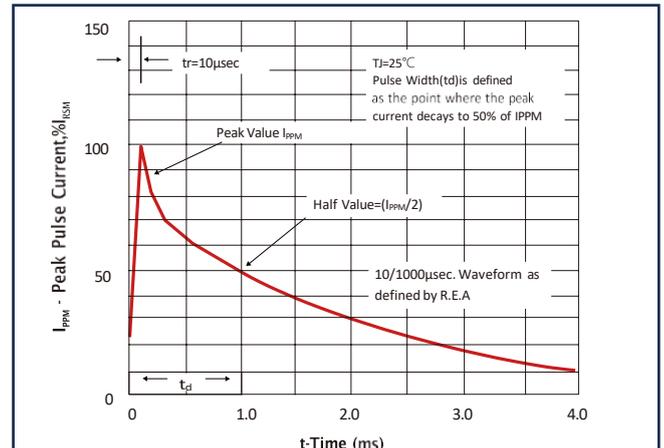
TVS Transients Clamping Waveform



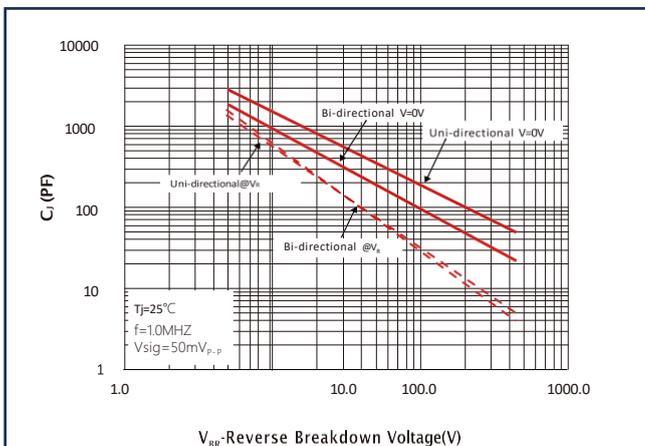
Peak Pulse Power Rating Curve



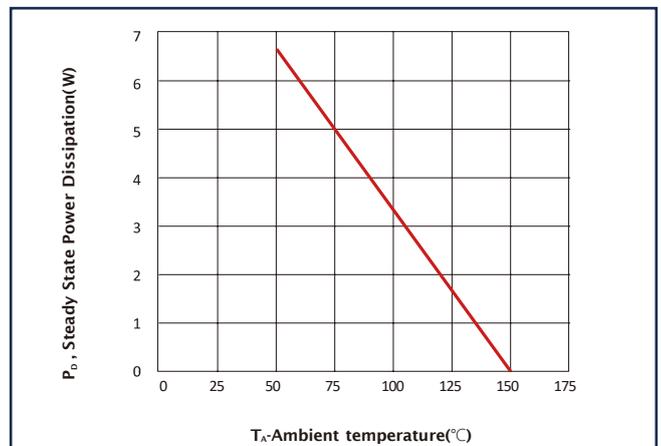
Pulse Derating Curve



Pulse Waveform



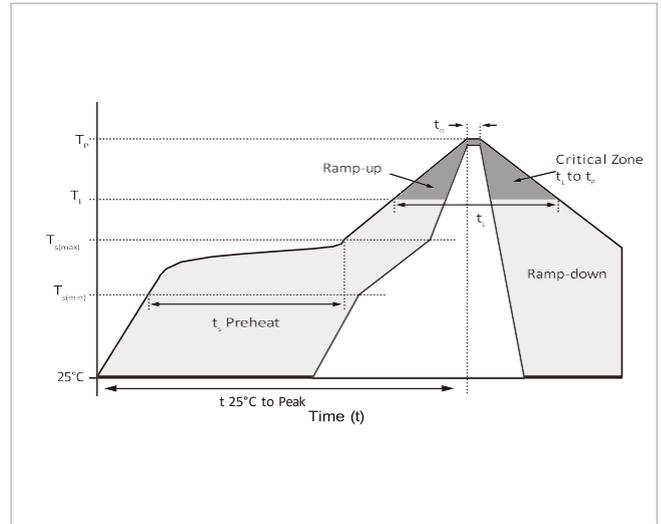
Typical Junction Capacitance



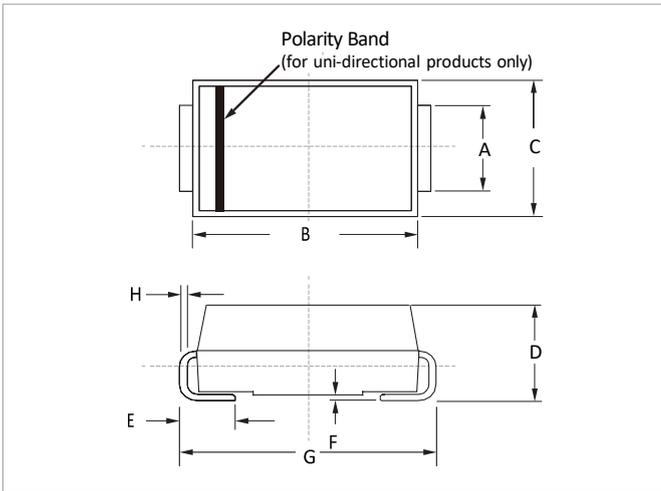
Steady State Power Dissipation Derating Curve

Soldering Parameters

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_p)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_r)	60 – 150 seconds
Peak Temperature (T_p)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C

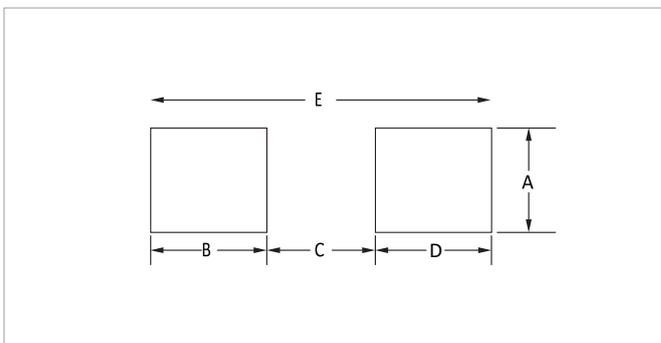


DO-214AB(SMC) Package Information



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.80	3.20	0.110	0.126
B	6.60	7.20	0.260	0.283
C	5.70	6.10	0.224	0.240
D	2.15	2.75	0.085	0.108
E	1.00	1.60	0.039	0.063
F	0.02	0.20	0.000	0.008
G	7.60	8.00	0.299	0.315
H	0.15	0.30	0.006	0.012

Recommended Pad Lay Out Dimensions



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.30	-	0.129	-
B	2.40	-	0.094	-
C	-	4.20	-	0.165
D	2.40	-	0.094	-
E	8.20 REF		0.323 REF	

Recommended Pad Lay Out Dimensions

Tape And Reel Specification - SMC

